

Adherence to Preoperative Cardiac Clearance Guidelines in Hip Fracture Patients

Andrea Stitgen, MD; Kim Poludnianyk, DO; Elizabeth Dulaney-Cripe, MD;
Ronald Markert, PhD; **Michael Prayson, MD**;
Wright State University, Dayton, Ohio, USA

Background/Purpose: Multiple prior studies have shown the importance of early surgical intervention for hip fracture patients in decreasing perioperative morbidity and mortality. As geriatric patients often have multiple comorbidities, surgical delays can occur due to preoperative medical clearance (optimization and risk stratification). In 2007, the American College of Cardiology (ACC) Foundation and the American Heart Association (AHA) developed guidelines to assist in determining those patients who require further preoperative cardiac evaluation and treatment. Our study aims to identify if cardiac consults are made in accordance with the ACC/AHA guidelines and the delays in care after unnecessary consults.

Methods: A retrospective review of 315 patients with hip fractures admitted to a Level I trauma center over a 2-year period was conducted. After excluding patients under 65 years old and those admitted by the general surgery trauma service, 266 patients were included. Charts were reviewed for criteria that would meet the ACC/AHA guidelines recommending a cardiac consult. The time between admission and surgical intervention was calculated. Postoperative complications and disposition were also reviewed.

Results: Of the 266 patients reviewed, 56 patients (21%) received preoperative cardiac consultations, while 210 patients did not. Only 16 of the 56 patients (29%) with cardiac consults met ACC/AHA guidelines for preoperative cardiac evaluations, while 40 patients received unnecessary cardiac consults. Three patients met the ACC/AHA guidelines but did not receive cardiac consults. Of the 247 patients (40 with consults, 207 without consults) who did not meet guidelines for cardiac consults, those who received a preoperative cardiac consult had a significantly longer average time to surgery (43.0 hours vs. 23.1 hours, $P = 0.006$) and significantly longer hospital length of stay (LOS) (7.8 days vs. 5.3 days, $P = 0.012$). There were no significant differences in postoperative complications or disposition between the two groups. Only 2 of the 16 patients who met cardiac clearance guidelines required a cardiac catheterization preoperatively. Of the 40 patients with cardiac consultations who did not meet guidelines, 21 patients had further cardiac testing beyond an electrocardiogram, while none required a cardiac catheterization.

Conclusion: Preoperative cardiac consults are frequently overused and lead to delays to surgical intervention and longer hospital LOS while not revealing any further need for cardiac intervention or changing the rate of adverse events. Stricter adherence to the ACC/AHA guidelines will help decrease surgical delay and hospital LOS.